

## ABSTRACT

A multiple-mode dielectric resonator in which two through holes (11) and (12) are formed in a substantially cubic dielectric core (1) so as to pass through opposing surfaces thereof, respectively, conductive support bars (3) are inserted with insulating bushings (6) having a low dielectric constant being interposed between the support bars (3) and inside surfaces defining the through holes (11) and (12), both ends of each support bar (3) are secured to a cavity (2), and opposing inside walls defining the cavity are electrically connected to each other (are short-circuited) by the support bars (3). Therefore, the dielectric core (1) is disposed in the cavity (2) without using a support base, so that the resonance frequencies of TM<sub>01</sub> delta modes, which are spurious modes, are considerably separated from frequencies of TE<sub>01</sub> delta modes that are used.